

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
<i>DB=USPT,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i>			
<u>L11</u>	L10 and matrix	1	<u>L11</u>
<u>L10</u>	us-6027665-\$.did.	2	<u>L10</u>
<u>L9</u>	l1 and active	2	<u>L9</u>
<u>L8</u>	l7 and negative	5	<u>L8</u>
<u>L7</u>	ncb-nm or ccn-nm	13	<u>L7</u>
<u>L6</u>	active matrix same l5	2	<u>L6</u>
<u>L5</u>	three pole switching or three-pole switching	32	<u>L5</u>
<u>L4</u>	three pole switching ot three-pole switching	0	<u>L4</u>
<u>L3</u>	L1 and three	2	<u>L3</u>
<u>L2</u>	l1 and matrix	2	<u>L2</u>
<u>L1</u>	(US-6319570-\$.did. or us-6190576-\$.did.)	3	<u>L1</u>

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L2: Entry 6 of 6

File: DWPI

Oct 9, 1997

DERWENT-ACC-NO: 1997-503016

DERWENT-WEEK: 200255

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TITLE: Stable 2,3-di:fluoro-1,4-phenylene-containing liquid-crystal compounds - useful for making liquid-crystal compositions and display devices e.g. of thin-film transistor type

INVENTOR: ANDO, T; KOIZUMI, Y ; MATSUI, S ; MIYAZAWA, K ; NAKAGAWA, E ; SEKIGUCHI, Y ; TAKESHITA, F ; TAKEUCHI, H ; ANDOU, T

PRIORITY-DATA: 1996JP-0239751 (August 22, 1996), 1996JP-0079946 (April 2, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9736847 A1	October 9, 1997	J	222	C07C043/192
DE 69713339 E	July 18, 2002		000	C07C043/192
AU 9720434 A	October 22, 1997		000	C07C043/192
JP 09535120 X	February 9, 1999		000	C07C043/192
EP 916639 A1	May 19, 1999	E	000	C07C043/192
CN 1218451 A	June 2, 1999		000	C07C043/192
EP 1043299 A2	October 11, 2000	E	000	C07C043/225
KR 99077385 A	October 25, 1999		000	C07C043/192
US 6190576 B1	February 20, 2001		000	C09K019/34
TW 416979 A	January 1, 2001		000	C09K019/04
US 6319570 B1	November 20, 2001		000	C09K019/34
JP 3231333 B2	November 19, 2001		133	C07C043/192
JP 2002053529 A	February 19, 2002		064	C07C069/753
EP 916639 B1	June 12, 2002	E	000	C07C043/192

INT-CL (IPC): C07 C 43/192; C07 C 43/225; C07 C 67/08; C07 C 69/75; C07 C 69/753; C07 C 69/757; C07 C 69/76; C07 C 69/773; C07 D 319/06; C09 K 19/04; C09 K 19/06; C09 K 19/12; C09 K 19/14; C09 K 19/16; C09 K 19/18; C09 K 19/20; C09 K 19/30; C09 K 19/34; C09 K 19/42; C09 K 19/44; C09 K 19/46; C09 K 19/54; G02 F 1/13; G02 F 1/1337; G02 F 1/139

ABSTRACTED-PUB-NO: EP 916639B

BASIC-ABSTRACT:

Liquid-crystal compounds of formula (I) are new. In (I), R₁, Y₁ = 1-20C alkyl; when there are > 2 adjacent methylene groups in the alkyl, these may be replaced by O, S or vinylene, and at least 1 of the H atoms in the alkyl may also be substituted by F or Cl atoms; X₁, X₂, X₃ = independently single bond, 1,2-ethylene, vinylene, -COO-, -CF₂O-, or -OCF₂-; among X₁, X₂ and X₃, there are at least 1 being -COO-, -CF₂O- or -OCF₂-; rings A₁, A₂, A₃, A₄ = independently trans-1,4-cyclohexylene optionally with CH₂ on the rings replaceable by O, or 1,4-phenylene in which /-1 of the H atoms may be substituted by F or Cl atoms; m, n = 0 or 1; provided that: when X₁, X₂ or X₃ = -COO-, among rings A₂, A₃ and A₄ there is at least 1 being 2,3-difluoro-1,4-phenylene; m = n = 0, and when X₁ = -COO-, ring A₁ = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; when m = n = 1, X₂

= -COO-, and when X1 = single bond or 1,2-ethylene, ring A2 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; m = n = 1, X3 = -COO-, and when X1, X2 = independently single bond or 1,2-ethylene, Ring A3 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; m = n = 0, X1 = -CF2O- or -OCF2-, and when ring A1 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by Cl or F atoms; and with the proviso that the elements constituting the compounds may each be replaced by their isotopes.

USE - The liquid-crystal compounds are used to produce liquid-crystal compositions and devices (claimed) including (super) twist nematic and the in-plane switching-driven thin-film transistor types.

ADVANTAGE - The liquid-crystal compounds and the thus produced compositions have improved transparency, low viscosity, but large dielectric anisotropy, high specific resistance and voltage retention, and are stable even when exposed to heat and UV rays.

ABSTRACTED-PUB-NO:

US 6190576B EQUIVALENT-ABSTRACTS:

Liquid-crystal compounds of formula (I) are new. In (I), R1, Y1 = 1-20C alkyl; when there are > 2 adjacent methylene groups in the alkyl, these may be replaced by O, S or vinylene, and at least 1 of the H atoms in the alkyl may also be substituted by F or Cl atoms; X1, X2, X3 = independently single bond, 1,2-ethylene, vinylene, -COO-, -CF2O-, or -OCF2-; among X1, X2 and X3, there are at least 1 being -COO-, -CF2O- or -OCF2-; rings A1, A2, A3, A4 = independently trans-1,4-cyclohexylene optionally with CH2 on the rings replaceable by O, or 1,4-phenylene in which /-1 of the H atoms may be substituted by F or Cl atoms; m, n = 0 or 1; provided that: when X1, X2 or X3 = -COO-, among rings A2, A3 and A4 there is at least 1 being 2,3-difluoro-1,4-phenylene; m = n = 0, and when X1 = -COO-, ring A1 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; when m = n = 1, X2 = -COO-, and when X1 = single bond or 1,2-ethylene, ring A2 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; m = n = 1, X3 = -COO-, and when X1, X2 = independently single bond or 1,2-ethylene, Ring A3 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; m = n = 0, X1 = -CF2O- or -OCF2-, and when ring A1 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by Cl or F atoms; and with the proviso that the elements constituting the compounds may each be replaced by their isotopes.

USE - The liquid-crystal compounds are used to produce liquid-crystal compositions and devices (claimed) including (super) twist nematic and the in-plane switching-driven thin-film transistor types.

ADVANTAGE - The liquid-crystal compounds and the thus produced compositions have improved transparency, low viscosity, but large dielectric anisotropy, high specific resistance and voltage retention, and are stable even when exposed to heat and UV rays.

Liquid-crystal compounds of formula (I) are new. In (I), R1, Y1 = 1-20C alkyl; when there are > 2 adjacent methylene groups in the alkyl, these may be replaced by O, S or vinylene, and at least 1 of the H atoms in the alkyl may also be substituted by F or Cl atoms; X1, X2, X3 = independently single bond, 1,2-ethylene, vinylene, -COO-, -CF2O-, or -OCF2-; among X1, X2 and X3, there are at least 1 being -COO-, -CF2O- or -OCF2-; rings A1, A2, A3, A4 = independently trans-1,4-cyclohexylene optionally with CH2 on the rings replaceable by O, or 1,4-phenylene in which /-1 of the H atoms may be substituted by F or Cl atoms; m, n = 0 or 1; provided that: when X1, X2 or X3 = -COO-, among rings A2, A3 and A4 there is at least 1 being 2,3-difluoro-1,4-phenylene; m = n = 0, and when X1 = -COO-, ring A1 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; when m = n = 1, X2 = -COO-, and when X1 = single bond or 1,2-ethylene, ring A2 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; m = n = 1, X3 = -COO-, and when X1, X2 = independently single bond or 1,2-ethylene, Ring A3 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; m = n = 0, X1 = -CF2O- or -OCF2-, and when ring A1 = 1,4-phenylene in which at least 1 of the H atoms may be substituted by Cl or F atoms; and with the proviso that the elements

constituting the compounds may each be replaced by their isotopes.

USE - The liquid-crystal compounds are used to produce liquid-crystal compositions and devices (claimed) including (super) twist nematic and the in-plane switching-driven thin-film transistor types.

ADVANTAGE - The liquid-crystal compounds and the thus produced compositions have improved transparency, low viscosity, but large dielectric anisotropy, high specific resistance and voltage retention, and are stable even when exposed to heat and UV rays.

US 6319570B

Liquid-crystal compounds of formula (I) are new. In (I), R₁, Y₁ = 1-20C alkyl; when there are > 2 adjacent methylene groups in the alkyl, these may be replaced by O, S or vinylene, and at least 1 of the H atoms in the alkyl may also be substituted by F or Cl atoms; X₁, X₂, X₃ = independently single bond, 1,2-ethylene, vinylene, -COO-, -CF₂O-, or -OCF₂-; among X₁, X₂ and X₃, there are at least 1 being -COO-, -CF₂O- or -OCF₂-; rings A₁, A₂, A₃, A₄ = independently trans-1,4-cyclohexylene optionally with CH₂ on the rings replaceable by O, or 1,4-phenylene in which /-1 of the H atoms may be substituted by F or Cl atoms; m, n = 0 or 1; provided that: when X₁, X₂ or X₃ = -COO-, among rings A₂, A₃ and A₄ there is at least 1 being 2,3-difluoro-1,4-phenylene; m = n = 0, and when X₁ = -COO-, ring A₁ = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; when m = n = 1, X₂ = -COO-, and when X₁ = single bond or 1,2-ethylene, ring A₂ = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; m = n = 1, X₃ = -COO-, and when X₁, X₂ = independently single bond or 1,2-ethylene, Ring A₃ = 1,4-phenylene in which at least 1 of the H atoms may be substituted by F atoms; m = n = 0, X₁ = -CF₂O- or -OCF₂-, and when ring A₁ = 1,4-phenylene in which at least 1 of the H atoms may be substituted by Cl or F atoms; and with the proviso that the elements constituting the compounds may each be replaced by their isotopes.

USE - The liquid-crystal compounds are used to produce liquid-crystal compositions and devices (claimed) including (super) twist nematic and the in-plane switching-driven thin-film transistor types.

ADVANTAGE - The liquid-crystal compounds and the thus produced compositions have improved transparency, low viscosity, but large dielectric anisotropy, high specific resistance and voltage retention, and are stable even when exposed to heat and UV rays.

WO 9736847A